

Notice of Allowability	Application No.	Applicant(s)	
	10/074,315	KANADE ET AL.	
	Examiner	Art Unit	
	Shawn S. An	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/06/05 and Examiner's Amendment (see attachment).
2. ☒ The allowed claim(s) is/are 1,3-12 and 14-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

I. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to Applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

IN THE CLAIMS:

A) Please cancel claims 30-33.

B) Please amend claims 1, 7, 14, and 19 as follows:

1. (Currently amended) A method of generating an image sequence of an object within a scene, comprising:

capturing an image of the object with a plurality of networked variable pointing camera systems, wherein the camera systems are positioned around the scene, and wherein pointing and optical parameters from a first of the camera systems and mapping data for the camera systems are used to compute pointing and optical parameters for the remainder of the camera systems such that, at a point in time, the camera systems are aimed at the object and a size of the object in images from each of the camera systems is substantially the same;

2D projective transforming certain of the images captured by the camera systems such that a point of interest in each of the images is at a same position as a point of interest in a first image from one of the camera systems; ~~and~~

outputting the 2D projective transformed images and the first image in a sequence corresponding to a positioning of the corresponding camera systems around the scene; and

determining the mapping data for the camera systems by;

determining the pose of each camera system with respect to the scene;
determining the relationship of a zoom control parameter to the angular
field of view for each camera system; and
determining the relationship of a focus control parameter to the distance to
objects for each camera system.

7. (Currently amended) A system for generating an image sequence of an object within a scene, comprising:

a plurality of networked variable pointing camera systems positioned around the scene;

means for determining, based on pointing and optical parameters from a first of the variable pointing camera system and mapping data for the camera systems, pointing and optical parameters for the remainder of the variable pointing camera systems such that, at a point in time, the camera systems are aimed at the object and a size of the object in images from the camera systems is substantially the same;

means for controlling the remainder of the variable pointing camera systems based on the determined pointing and optical parameters for the remainder of the camera systems;

storage means for storing images captured by the plurality of camera systems; and

a frame-sequencing module in communication with the storage means for 2D projective transforming stored images such that a point of interest in images from each of the plurality of camera systems is at the same position, wherein the mapping data includes;

data regarding the pose of each camera system with respect to the scene;
data regarding the relationship of a zoom control parameter to the angular field
view for each camera system; and
data regarding the relationship of a focus control parameter to the distance to
objects for each camera system.

Art Unit: 2621

14. (Currently amended) A system for generating an image sequence of an object within a scene, comprising:

a plurality of networked variable pointing camera systems positioned around the scene;

means, based on pointing and optical parameters from a first of the variable pointing camera system and mapping data for the camera system, for determining pointing and optical parameters for the remainder of the variable pointing camera systems such that, at a point in time, the camera systems are aimed at the object and a size of the object in images from the camera systems is substantially the same;

means for controlling the remainder of the variable pointing camera systems based on the determined pointing and optical parameters for the remainder of the camera systems;

storage means for storing images captured by the plurality of camera systems; and

means in communication with the storage means, for 2D projective transforming the images from the plurality of camera systems such that a point of interest in images from each of the plurality of camera systems is at the same position, wherein the mapping data includes:

data regarding the pose of each camera system with respect to the scene;

data regarding the relationship of a zoom control parameter to the angular field view for each camera system; and

data regarding the relationship of a focus control parameter to the distance to objects for each camera system.

19. (Currently amended) A system, comprising:

a plurality of pan/tilt camera systems positioned around a scene;

means for controlling the camera systems based on computed pointing and optical parameters for certain of the camera systems, wherein the pointing and optical parameters are computed based on pointing and optical parameters from at least one of the camera systems and based on mapping data for the camera systems, such that

Art Unit: 2621

each camera system is aimed at a target within the scene and such that a size of the target in an image from each camera system is substantially the same at a particular time;

a video storage unit in communication with each pan/tilt camera system for storing images captured by each camera system; and

a frame-sequencing module in communication with the video storage unit, wherein the frame-sequencing module is for 2D projective transforming images from certain of the camera systems such that a point of interest in an untransformed image from one of the camera systems is at a same position as a point of interest in each of the 2D projective transformed images, wherein the mapping data includes:

data regarding the pose of each camera system with respect to the scene;

data regarding the relationship of a zoom control parameter to the angular field view for each camera system; and

data regarding the relationship of a focus control parameter to the distance to objects for each camera system.

REMARKS:

II. Claims 30-33 have been canceled, and claims 1, 7, 14, 19 have been amended as discussed above, as authorized by Applicant's attorney, Mark G. Knedeisen (Reg. No. 42,747) on 4/18/06 and 4/20/06.

III. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S. An* whose telephone number is 571-272-7324.



SHAWN AN
PRIMARY EXAMINER

4/20/06

Reasons for Allowance

1. As per Applicant's instructions as filed on 9/06/05, claims 1, 3, 5, 7-12, 14-19, and 21 have been amended, claims 2, 13, and 22-29 have been canceled, and claims 30-33 have been added.
2. Claims 1, 3-12, and 14-21 are allowed after entering the Examiner's Amendment as discussed in the EXAMINER'S AMENDMENT section.
3. Claims 1, 3-12, and 14-21 as amended are allowed as having incorporated novel features (amended independent claim limitations).

The prior art of record fails to anticipate or make obvious the novel features (see amended independent claim limitations as discussed in the EXAMINER'S AMENDMENT section).

Any comments considered necessary by Applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.
 - A) (7,027,083 B2), System and method for servoing on a moving fixation point within a dynamic scene.
5. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

6. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn S. An* whose telephone number is 571-272-7324.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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4/20/06